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## The ferns and flowering plants of Nantucket—IX

EUGENE P. BICKNELL

### CAESALPINIACEAE

#### CASSIA CHAMAECHRISTA L.

Sandy tracts and roadsides east of the town beyond the Creeks, extending locally as far as Quaise; also south of the town on the road to Surfside. Remaining in flower late in September. Usually undersized, often even less than 4 cm. high, with flowers only 1 cm. long and leaves 5 mm. in length, their minute leaflets reduced to three or four pairs.

*Note.*—The honey locust (*Gleditsia triacanthos* L.) is sparingly spontaneous about a row of rather large trees bordering the Wauwinet road at Eatfire.

### PAPILIONACEAE

#### BAPTISIA TINCTORIA (L.) R. Br.

Scattered widely over the plains and moorland, often forming open groups, but nowhere thickly massed in extensive growths as on Long Island. On June 3, 1909, the most advanced plants were about one foot high; a precocious flower June 17, 1908.

#### ULEX EUROPAEUS L.

Mrs. Owen has told us (Cat. p. 22) that the furze or gorse was introduced on Nantucket by John O'Connell about the year 1860, and that at the time she wrote, in 1888, it was still growing on his farm near Hummock Pond, where it had spread both within the fence and along the road on the outside. Today the O'Connell farm belongs wholly to the past and little evidence remains of the enterprise of the pioneer who there once gave cultivation to the land. Not even the remains of any building mark the wild surroundings, and the road and old fence of which Mrs. Owen has spoken may be traced only by those who know where to look among the growth of pines and shrubbery which has all but completed its work of obliteration. Where the labor of the

early settler has left scarce a vestige to tell its tale, the gorse and the Scotch broom bear their witness to the human sentiment which here had its dwelling place in days now over half a century gone. At this spot, on June 6, 1909, the broom, almost dazzling in its wealth of bloom, everywhere spread its golden masses along the dark background of the pines and with a glow like sunshine lighted up the recesses among the shrubs and trees. Blooming with it in scarcely paler brightness, but nowhere far strayed from the course of the vanished roadway, the gorse, in spiny clumps and formidable thickets was also in strong possession of its conquered ground. Its greatest continuous growth exceeded one hundred and ten paces in longer extent and twenty paces in maximum transverse breadth, the stouter shrubs having reached a height of four to six feet, with stems four to six inches in circumference. It had flowered earlier than the broom, some of the blossoms having already begun to fade. In June 1911, both the gorse and broom were found to have suffered severely, probably from the long-continued drought, and much of both was either partially or wholly dead and brown.

*CYTISUS SCOPARIUS* (L.) Link.

Now extensively naturalized on Nantucket, the Scotch broom is steadily increasing and spreading to new localities year by year. Writing in 1888, Mrs. Owen included the species in her catalogue on the evidence of a single plant reported by Mr. J. H. Redfield as growing among the furze bushes on the O'Connell farm. At that locality in 1906 the broom was found to have spread extensively in a contest for supremacy with the young pines among which it grew, and the larger plants had attained a height of eight to ten feet and their stems a basal girth of four to six inches. In 1899, when this locality was unknown to me, the broom was observed at only three stations, east, west, and south of the town. On my next visit to the island, five years later, small clusters were seen at three places on the Wauwinet road between Shawkemo and Polpis, and an extensive growth formed a stubborn thicket along the western border of Trot's Swamp on the site of the old Barrett farm. In 1906 it had appeared here and there along an old cart-road in Polpis and was first observed on the bluff at Siasconset, extending down the steep slope from the top, where it had doubt-

less been planted. The following year new localities were noted about one mile southeast of the county fair grounds, near Almanac Pond and on the roadway through Spotsor country, new stations having become established also along the Wauwinet road. In 1908 many scattered colonies were found in the neighborhood of the long-abandoned Barlett farm. It was also seen that year for the first time near Reed Pond and east of the county fair grounds. In 1909 it had sprung up at a number of suburban localities and was first observed as far east as Squam towards Quidnet, as far southeast as the abandoned Kimball farm in the south pasture, and on the south side of the island near Miacomet Pond; it was also well established along the old south road about two miles from the town. A thriving colony in private grounds among the pines at Wauwinet had doubtless been planted there, and a considerable thicket east of Shimmo farm was so well founded that it could scarcely have been of very recent origin. In 1911 the plant was first seen on the Madequet road towards Long Pond.

As early in the season as May 30, 1909, the broom was in full flower; it was in equally conspicuous bloom on June 6, 1909, and from June 15 to 20, 1910, although on June 20, 1908, it was passing out of flower. Occasional single flowers are to be found in August and September. It fruits freely, maturing abundant seed.

On a visit to Marthas Vineyard in October, 1909, it was found that the broom had effected a lodgement on that island. A group of four bushy plants or clusters, the tallest about four and one-half feet high, grew by a thicket on the west side of Sengekontacket Pond, and a solitary plant two feet high near the shore road three miles or so north of Edgartown. In 1911 a tuft had sprung up by an old roadway near the golf links at Edgartown, and a small clump was observed on the northwestern side of the island near Lambert's Cove.

\**MEDICAGO SATIVA* L.

Frequent in grassy lots and in outlying fields near the town. First flowers June 18, 1908; in full flower at the middle of September 1907. Siasconset, 1886, Mr. Nickerson, fide F. G. Floyd.

*MEDICAGO LUPULINA* L.

Rather common, mainly along roadsides and in the more inhabited parts of the island. First flowers, May 30, 1909; in full flower at the middle of September 1907.

*MELILOTUS ALBA* Desv.

In 1904 this plant was found only along the railroad in the town, where it was well established; two years later it had extended in detached groups here and there along the Siasconset and Wauwinet roads and in 1908 had sprung up at several places about the town. First flowers June 18, 1908; June 23, 1910.

\**MELILOTUS OFFICINALIS* (L.) Lam.

First observed by me on Aug. 11, 1906, a cluster in full flower in a field near Miacomet Pond; in 1908 a solitary plant was seen below the "Cliff," and a patch south of the town; in 1910 it had appeared at another station south of the town and was found on June 25 at Sankaty Head, extending in a wide breadth of bloom down the face of the bluff. Many years before, it grew at this spot, having been found there in abundance in 1888 by Miss Elizabeth S. Kite and again, in 1891, by Mrs. Mabel P. Robinson.\* It was also observed by Mr. Floyd as early as 1895 at Brant Point, where it still persists and showed its first opened flowers June 3, 1911.

*TRIFOLIUM AUREUM* Poll.

Common in sandy soils and grassy places. First flowers June 10, 1908; June 12, 1909; June 15, 1910; also in full flower late in September.

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\* For these records I am indebted to Mr. Frederick G. Floyd, who has sent me a manuscript list of additions to Mrs. Owen's Catalogue, which he has had in preparation since 1905. My own explorations on Nantucket had been carried on in the belief that since the publication of Mrs. Owen's list the island had remained an almost neglected botanical field. How mistaken was this belief is disclosed by Mr. Floyd's manuscript, which shows that the island has continuously inspired the active botanical interest of many collectors, one or more of whom have made new discoveries in its flora almost from year to year. And not less an occasion of surprise to me is this, that in the many absorbing botanical days I have myself passed exploring this garden of the sea it has never been my fortune to encounter a kindred spirit, neither a botanist nor an explorer in any branch of nature study.

It appears from Mr. Floyd's notes that some of my own supposed discoveries were earlier made by others, and it will be a pleasure here to make record of all such additions to the island's flora that have received Mr. Floyd's or other adequate verification. To Mr. Floyd I extend my appreciative acknowledgments for his generous contribution to the greater completeness of the present paper.

## TRIFOLIUM PROCUMBENS L.

Gravelly and sandy fields and dry grassy slopes, mainly in the more settled parts of the island, usually growing in close beds or smaller isolated patches. Very common in the neighborhood of the town and from Reed Pond to the county fair grounds, extending as far east as Shawkemo; common in Madequet and about Siasconset. First flowers May 30, 1909; just in flower June 7, 1911; blooming abundantly during June. Some flowers Sept. 16, 1907.

## \*TRIFOLIUM DUBIUM Sibth.

Roadsides, fields, and grassy places. Abundant throughout the north side of the island from Madequet to Squam; abundant also in the southwest quarter and about Siasconset. Apparently beginning to bloom rather earlier than *T. procumbens* and having a briefer flowering period. First flowers May 30, 1909; much of it past flowering June 18, 1908, and June 26, 1910. Mr. Floyd's notes contain a reference to this species on Nantucket as far back as 1889, when it was collected by Miss Elizabeth S. Kite.

## \*TRIFOLIUM INCARNATUM L.

Occasional in old fields, persisting where it has been sown, but apparently never becoming permanently established. Siasconset 1899. In full flower May 30, 1909, and late in September. North Beach Street—meadow—evidently introduced in grass seed, 1895, F. G. Floyd; yard in town, 1896, Mrs. Mabel P. Robinson, fide F. G. Floyd.

## TRIFOLIUM ARVENSE L.

Abundant in dry sterile soils. When almost in flower it often remains a long time without coming actually into bloom. Appearing to be in flower June 15, 1910, but no flowers fully opened until June 27. In September many young plants often come into bloom among others that had completely dried up long before.

## TRIFOLIUM PRATENSE L.

Very common. In early June it is conspicuous from its luxuriance and profuse bloom in low-lying grassy lots in the town. First flowers May 30, 1909.

## TRIFOLIUM HYBRIDUM L.

Common in and about the town; less frequent at more distant

points. Comes into flower later than either *T. repens* or *T. pratense*; first flowers June 3, 1911, June 15, 1910; not blooming freely until June 20, 1908; remaining in flower through September.

TRIFOLIUM REPENS L.

Very common either in dry or moist soils and varying greatly both in size and habit. First flowers June 2, 1909; in full flower June 15, 1910; blooming through September.

CRACCA VIRGINIANA L.

Abundant on the plains west of the middle of the island and towards the south shore; Great Neck; north of Siasconset; nowhere seen on the northern half of the island. Plants just appearing May 31, 1909; leaves beginning to unfold June 9, 1908; first flowers June 17, 1908; abundant fruit at the middle of September, 1907.

\*ROBINIA PSEUDACACIA L.

Well established along the old south road, and spontaneous at several places on the outskirts of the town; sparingly at the Miacomet pines. In 1889 a thicket or close growth of young trees had become established in open ground north of the town; this has since developed into rather a conspicuous grove, the larger trees having a height of not less than twenty feet and a basal girth of 17 inches. First flowers June 15, 1910, June 16, 1911; still in full bloom June 27, 1910.

\*ROBINIA VISCOSA Vent.

Occasional by roadsides near the town and at Siasconset. Has spread little if at all since 1889, when it was first observed. First flowers June 22, 1910.

CORONILLA VARIA L.

Along a neglected roadside and in a waste yard in the town, where it was first observed in 1906; a luxuriant growth in full bloom in a grassy field border south of the town June 18, 1908; at Siasconset along a roadside fence (1906) and on the bluff (1908). Not yet in flower June 17, 1911.

MEIBOMIA OBTUSA (Muhl.) Vail.

Rather common on the eastern side of the island, especially in Squam and in the region about Saul's Hills; occasional on the plains towards the south shore but not seen west of Hummock

Pond; on the north side of the island not seen west of Shawkemo. In full flower and abundant fruit Sept. 1, 1904; last flowers Sept. 11, 1899.

Except on Nantucket I have not noticed that this plant may relax from its erect or stiffly ascending habit. Here it is frequently quite prostrate, the slenderly elongated stems and branches of the panicle proceeding almost in the trailing manner of a *Lespedeza* among the grass and low plants of the dry open places where it grows. These prostrate forms are more slender and less pubescent than normal suberect states of the plant and have less numerous and crowded leaves with thinner leaflets.

\**MEIBOMIA RIGIDA* (Ell.) Kuntze.

Growing sparingly on a dry open slope in Squam, Sept. 21, 1907, and bearing abundant fruit; rather a small form of the plant becoming 6 dm. high, the leaflets 3-4 cm. long by 1.5 cm. wide.

\**MEIBOMIA CANADENSIS* (L.) Kuntze.

Mrs. Nellie F. Flynn has sent me a flowering specimen of this tick trefoil, which was collected on Nantucket Aug. 13, 1904, by Mrs. Eleanor W. Morgan, no locality being given.

\**MEIBOMIA SESSILIFOLIA* (Torr.) Kuntze.

In the herbarium of the Nantucket Maria Mitchell Association I found a sheet of this species, which had been collected on Nantucket by Mrs. Nellie F. Flynn Aug. 23, 1901. In regard to this specimen Mrs. Flynn has written me that she collected it "by a roadside just west of the farm house near and west of Nobadeer Pond," where it grew very sparingly.

*LESPEDEZA PROCUMBENS* Michx.

Locally common in open pine scrub and on the plains and commons, occurring in all quarters of the island. Stems a few inches long June 7, 1909; small flower buds Aug. 11, 1906; first flowers Aug. 29, 1904; in full flower Sept. 1 to 15.

On Nantucket this species is subject to much variation in degree of pubescence and in other characters. Two varieties are especially to be noted, one whitened with a dense velvety pubescence, the other having a looser pubescence of shorter, less spreading hairs and flowers tending to be smaller and of somewhat different proportions, the petals narrower, the wings often sur-



passing the keel, the standard paler and less distinctly lineate; also, the pods are commonly smaller and more orbicular.

**\*LESPEDEZA BRITTONII** Bicknell.

Found in much the same situations as the preceding and sometimes growing with it but less widely spread. It is often quite prostrate, and on the open plains towards the south shore of the island forms close mats three or four feet in diameter of radiating and flatly interlaced stems and branches, which in August and September are loaded with the flowering racemes. First flowers Aug. 11, 1906; in full flower Aug. 29, 1904, Sept. 15-23, 1907. Often develops an unusual degree of dense cinereous pubescence.

**\*LESPEDEZA NUTTALLII** Darl.

Met with at only two stations: between Siasconset and Tom Never's Pond, Aug. 31, 1904, the flowers rather pale pinkish white with the standard medially purple-lineate; and near the railroad about the fifth mile, Sept. 2, 1904, the flowers deeply purple-tinged. At both stations the plants were rather low, 3-6 dm. high, with unusually contracted inflorescence, which appeared capitate by reason of the short, densely floriferous racemes massed together at the end of the stem. The plants were perfectly healthy, but their repressed inflorescence seemed to announce that some factor of their environment had been unfavorable to their freest development.

**\*LESPEDEZA STUVEI** Nutt.

A small group of plants in full flower Aug. 31, 1904, near Siasconset towards Tom Never's Pond; two stations in Saul's Hills, Sept. 19, 1907, the plants well fruited and with some late flowers. Plants 2-3 dm. high were observed in Saul's Hills June 8, 1908.

**\*LESPEDEZA VIRGINICA** (L.) Britton.

Occasional, and locally common on the eastern half of the island, especially along the state road. The Nantucket plant is often notably pale in color from an investiture of appressed sericeous pubescence densely clothing the younger parts and the lower surface of the leaves, and to a less extent the upper surface also. Flower buds barely discernible Aug. 13, 1906; in full flower Sept. 15, 1907; last flowers Sept. 12, 1899.

## LESPEDeza FRUTESCENS (L.) Britton.

Infrequent. Bank near the Creeks; near Tom Never's Pond and westward on the moors; Shawkemo. On the western side of the island it was met with only at one station, on the plains towards Hummock Pond. In full flower Aug. 31, 1904, Sept. 4, 1899, abundant fruit and some late flowers; no flowers remaining Sept. 17, 1907.

Probably the *Lespedeza violacea* of M<sup>rs</sup>. Owen's list.

## LESPEDeza HIRTA (L.) Hornem.

Not uncommon but somewhat local and not seen at all in the western half of the island. Frequent over the south pasture and on the moorland toward Siasconset; Shawkemo; Saul's Hills; Polpis; Squam. Just in flower Aug. 13, 1906; in full flower Sept. 13, 1907.

On the open moorland a form occurs—it grows also in the pine barrens of Long Island—in which the crowded leaves are densely villous-tomentose beneath and almost felted on the upper surface with a densely appressed soft pubescence; their petioles are commonly shorter than in the usual form of the plant and the leaflets elliptic to obovate-oblong and suborbicular; the pubescence is often notably ferrugineous. This plant is undoubtedly a well characterized variety, yet if it were to receive a name as such, consistency would require that names be given to other only less markedly set apart forms of this bush clover and of all our other species as well.

## LESPEDeza BICKNELLII House, Torrey 5: 167. 1905.

*L. velutina* Bicknell, Torrey 1: 102. S 1901. Not *Lespedeza velutina* Dunn; Hooker, Icones Pl. IV. 7: pl. 2700. F 1901. A native of China.

The only abundant and generally distributed bush clover of Nantucket, found everywhere in dry open places, even growing in white sand among the beach grass along the shores. Although sometimes erect or ascending to a height of one or two feet, it is more often nearly or quite prostrate. Even the early shoots are often declined and in June are to be seen radiately decumbent or prostrate around dead suberect stems of the preceding year. On Marthas Vineyard this bush clover is also the prevailing species, but it is there mostly erect, although on the plains some-

times becoming quite prostrate. On Chappaquiddick Island, where the vegetation in general is more like that of Nantucket than on Marthas Vineyard proper, no plant of this species was found that showed any prostrate tendency.

On Nantucket, like several other *Lespedezas*, this species develops an unusual degree of pubescence, the stems becoming velvety-cinereous, the leaflets conspicuously whitened and almost felted on both surfaces with a velutinous canescent or appressed silky indument. Stems a few inches long June 2, 1909; first flowers Aug. 11, 1906; in full flower Aug. 28, 1904; no flowers left Sept. 2, 1907.

Nothing was seen of *L. capitata* Michx., although it may be expected to occur since it was found at one station on Marthas Vineyard. The name appears in Mrs. Owen's catalogue but of course refers to the allied species, which was not recognized until many years later.

\**VICIA VILLOSA* Roth.

Occurs sparingly at one locality in Quaise, where it is found running through the grass about an isolated and long-abandoned dwelling. First flowers June 15, 1911; in full flower Aug. 16, 1906, Sept. 17, 1907.

\**VICIA TETRASPERMA* (L.) Moench.

Not observed until 1909, when it was found not far from the old mill along a roadside bank and intricately entangled over many rods of an adjoining field. The next year it was seen at the foot of the "Cliff" and in quantity by a roadside southwest of the town. Near Union Street, 1904, Mrs. Nellie F. Flynn; near Orange Street, 1905, J. R. Churchill, fide F. G. Floyd. Just in flower June 15, 1910; in full flower June 13, 1909, June 26, 1910. Corolla larger than in *V. hirsuta*, purplish and pinkish tinged, the standard purple-lineate.

\**VICIA HIRSUTA* (L.) Koch.

One station north of the town, where there is a tangled growth in a hollow of a sloping sandy field; near the docks, 1895, Mrs. Nellie F. Flynn, fide F. G. Floyd. Not yet any flower buds May 30, 1909; first flowers June 12, 1909; June 15, 1910; June 15, 1911. Corolla smaller than in *V. tetrasperma*, bluish and white, the standard without darker lines.

## VICIA SATIVA L.

Abundant in the town and suburbs, running rife amid the grass in fields and meadows and along roadsides. In full flower May 30, 1909; June 7, 1908. Appears to have increased remarkably within very recent years. Mrs. Owen mentions it as occasional in dooryards and old fields.

## \*VICIA ANGUSTIFOLIA Roth.

Now very common but not noticed before 1907, when it was seen at two stations in the town and in an old field a mile out; the next year it was found to be frequent in the general town region and was observed at Monomoy, Shawkemo, Madequet, and in the southwest quarter. In full flower June 7, 1908; June 15, 1910. Like the preceding, this vetch seems to have increased greatly in recent years. The two are often found growing together and appear to hybridize, since examples are frequent which it is scarcely possible to assign conclusively to one or to the other.

## LATHYRUS PILOSUS Cham.

Borders of brackish or fresh-water meadows along the harbor, locally common from the Creeks to Pocomo; Squam Pond; Sachacha Pond; Little Neck. Under the name *Lathyrus palustris* L., Mrs. Owen has recorded that it was found at Hummock Pond by Mr. J. H. Redfield. First flowers May 30, 1909; June 7, 1911; a few flowers remaining Aug. 28, 1904. Stems, leaves, calyces, and even the tendrils more or less pubescent, the younger parts pilose-canescens; stems commonly broadly winged, at least above; leaflets 2 or 3 pairs (rarely 1 pair or 4 pairs), narrowly linear to lanceolate or narrowly oblong, 2.5-7 cm. long; peduncles 2-4-flowered, the flowers 1.5-2 cm. long, bright crimson changing to clear deep blue.

## LATHYRUS MARITIMUS (L.) Bigel.

Common along the coastal sands, often extending back among the dunes; along the top of the bluff on the north shore; abundant at the western end of the island. First flowers June 7, 1909; just in full flower June 7, 1908; occasional flowers in September. At one locality near the bathing beach, in June 1910, many plants bore only pale flowers, white with lavender standard. Varies from glabrous to densely short-pubescent.

\*LATHYRUS TUBEROSUS L.

In Quaise, making a luxuriant tangle among the grass along and near an old fence. Not yet with any signs of flower buds June 9, 1911.

APIOS APIOS (L.) MacM.

Rather common in low grounds and on the borders of swamps. In full flower at the middle of August, 1906; no flowers seen in September.

FALCATA PITCHERI (T. & G.) Kuntze.

Sparingly in Watt's Run bog at the border of a wet thicket, Sept. 17, 1907, well fruited and with some faded flowers remaining. Stems retrorsely rusty-villous; larger leaflets oblong-ovate, 7 cm. long by 4 cm. wide, appressed-hairy on both surfaces; calyx 7 mm. long; pod 3 cm. long or longer, the margins retrorsely hispid-villous; sides of the mature valves glabrous.

Referred to *F. Pitcheri* with reservations pending a more critical study of our hog peanuts than seems yet to have been attempted. The indications appear to point to more than two species in our flora. The Nantucket plant is scarcely identical with typical *F. Pitcheri*, ordinarily an inhabitant of low open thickets, yet it is certainly closer to that species than to *F. monoica*, a smaller and more delicate woodland plant. The latter was not seen on Nantucket, but it is locally common on Marthas Vineyard in the hilly woodland on the western side of that island. It is mentioned in Mrs. Owen's catalogue but the exact plant intended cannot now be known.